Measuring competing explanations of human resource management practices through the Cranet survey: cultural versus institutional explanations

Measuring competing explanations of human resource management practices: cultural versus institutional explanations

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Abstract

This paper assesses the relative and joint impact of cultural and institutional factors on firms' use of "calculative" human resource management practices to determine their separate analytic power. To what extent do institutions and culture structure managerial choice? Previous research has been constrained by not having measures for both cultural and institutional distance. Employing data from 14 European countries our findings indicate that institutional, and more specifically, labour relations factors, have more explanatory power than cultural factors.

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Introduction

A core issue in international human resource management (HRM) has been to account for cross-national variations in HRM regimes. A number of frameworks have been proposed including those of Gronhaug and Nordhaug (1992), Jackson and Schuler (1995) and Budhwar and Sparrow (2002). In general their common feature is to propose a distinction between cultural and institutional factors. However, hitherto it has not been possible to assess the relative importance of these two sets of factors. This is because while cultural distance has been operationalized and thereafter "widely used" (Shenkar, 2001:519), until recently there has been no equivalent measure of institutional distance. As a consequence, some researchers have even employed country as a composite measure of both cultural and institutional factors (e.g. Fey Morgulis-Yakushev, Park and Björkman (2009); Gooderham, Nordhaug, and Ringdal (1999)).

Using a recently developed measure of institutional distance (Hall and Gingerich, 2004a) and an established and extensively used measure of cultural distance (Kogut and Singh, 1988), the aim of this paper is to assess the relative and joint significance of both cultural and institutional factors in shaping the HRM practices that private-sector firms adopt in different national contexts. The issue is important for the way that it provides insight into the relative and joint utility of these two widely applied modes of analysis. The question we pose is how useful the two paradigms are when taken together at the organizational level in regard to their impact on adoption of a particular set of "calculative", HRM practices (Gooderham et al., 1999).

While acknowledging fundamental criticisms of both schools of thought, since they are widely used frameworks we take both the institutionalist and culturalist cases at face value and empirically test their respective contributions in explaining the adoption of calculative HRM. Culture refers to deep-seated norms and values derived from secular historical processes that are "programmed" into the minds of actors (Hofstede, 1991). Institutions refer to more recently negotiated (in historical terms) legal frameworks and systems of industrial relations (Hall and Soskice, 2001). Cultural and institutions differ in two important ways. First, culture is considerably less tangible than institutions and second,

while institutions are regularly transformed and modified (Hall and Thelen, 2009), culture is considered to be more persistent over time (Hofstede, 1980). The essence of the two perspectives may be captured by use of the distinction between 'simple' and 'complex' social relations proposed by Chapman (1990). The former are inter-personal relations and the latter are more developed relations mediated (in the examples given by Chapman) by organisations such as companies or trade unions. The nature of 'simple' relations is determined solely by factors intrinsic to the relationship itself, whereas the nature of 'complex' relations is determined by an externally-determined set of incentives. While both simple and complex relations are conditioned by cultural factors, the latter are also affected by the matrix of incentives created by intervening institutions.

To date, no researchers have attempted to compare and contrast the relative explanatory power of the two sets of factors in explaining firms' use of specific organizational practices at the national level. This is because while measures of cultural distance between countries have been available ever since Hofstede's classification of culture, and especially since it was adapted by Kogut and Singh (1988) to form an index of cultural distance that has become "the proxy of choice for national differences" (Xu and Shenkar, 2002:608), it is only recently that an equivalent measure has been developed by Hall and Gingerich (2004a, 2004b) for institutional distance. That is a measure that is not perceptual but which is theoretically grounded (cf. Dikova, 2009) and comprehensive (cf. Brouthers, 2002).

As stated above we compare the explanatory power of these two sets of factors on the use of a particular set of HRM practices referred to as "calculative HRM" (Gooderham et al., 1999). HRM is a labour management paradigm that originated in the USA and reflects the predominant approach of companies based there (Gooderham, Nordhaug and Ringdal, 2006). Within this paradigm calculative HRM comprises a distinctive set of "individualized" (see Brown, Deakin, Nash and Oxenbridge, 2000) practices that includes individualized performance measurements and pay. The distinctiveness of calculative HRM as a set of US practices has been documented by research that indicates that US multinationals are significantly more able to transfer it to their operations in other Anglo-Saxon countries than to continental European countries (Gooderham et al., 2006). In terms of Taylor, Beechler and Napier's (1996) model of HRM transfer this difference in transferability is due to differences in cultural and institutional distance. However, determining precisely the relative and joint

effects of these two factors has been impeded by the lack of a measure of institutional distance. Our research is able to benefit from the introduction of such a measure by Hall and Gingerich (2004a). As such we are able to evaluate the joint and relative impact of the two sets of factors on the cross-national adoption by firms of a distinctively US practice.

In summary we simultaneously employ the Kogut and Singh (1988) composite index of cultural distance and Hall and Gingerich's (2004a) index of institutional distance to compare the extent to which the two indices explain the incidence of calculative HRM across private-sector firms in 14 countries including the UK, Ireland, Australia, Norway, Denmark, Germany and Austria. Appropriate to our task, both indices are designed to measure distance from the USA. While our choice of countries is constrained by those encompassed by the Hall-Gingerich index our selection nevertheless represents a substantial variety of cultural and institutional settings.

The paper is structured as follows. Initially, we present brief accounts of the concepts of cultural and institutional distance. Thereafter we outline the concept of calculative HRM and propose two hypotheses. Using separate measures of cultural and institutional distance these are then tested and conclusions in regard to the relative explanatory power of cultural and institutional distance are drawn.

Cultural distance

Culture has been defined in different but largely consistent ways (Tsui, Nifadkar and Ou, 2007). Hofstede defines it as: 'the collective programming of the mind that distinguishes one group or category of people from another' (Hofstede, 1993:89). Cultural explanations focus on shared cultural values as 'the major source of differentiation among national groups' (Tsui et al., 2007: 430) and culture is often assumed to be the key differentiator of managerial behaviour in different national contexts (an assumption criticized by both Parboteeah and Cullen, 2003 and Kirkman, Lowe and Gibson, 2006). Hofstede, Neuijan, Ohayv and Sanders (1990: 286) have suggested that "culture has become a fad, among managers, among consultants, and among academics" and Hofstede (1980) warns that cultural explanations should not be applied to the individual level. However, while researchers employing culture are well aware that there is considerable within-country variation on cultural values it is

argued that between-country differences are significant for understanding organizational outcomes (Kirkman et al., 2006; Reus and Lamont, 2009). Thus cultural interpretations of behaviour continue to be advocated as central to the development of management and social science (Friedlmeier, Chakkarath and Schwarz, 2005).

Cultural distance has received a great deal of attention in the international business literature (Barkema, Bell and Pennings, 1996; Kogut and Singh, 1988; Li and Guisinger, 1991; O'Grady and Lane, 1996; Shenkar, 2001). Our research is based on Hofstede's (1983; 1991) dimensions of national culture and we have adopted Kogut and Singh's (1988) index of cultural distance. Despite the fact that a number of other researchers have also investigated the phenomenon, often from an essentially psychological base (see for example Triandis, 1994), and the fact that their perspectives are increasingly used to supplement his approach, Hofstede is the most widely cited author in the field (Sondergaard, 1994; Yoo and Donthu, 1998) as demonstrated in a recent extensive survey of 180 articles on culture published in leading management journal (Kirkman et.al., 2006). His pioneering role has been accepted by the author of a competing framework Trompenaars (1993, iii) who credits Hofstede "for opening management's eyes to the importance of the (cross-cultural management) subject".

Hofstede's (1980; 1983; 1991) empirical framework of national culture is based on a survey of 117,000 IBM employees across 50 countries and three multi-country regions. The data were collected by using a self-completed questionnaire at two points in time between 1968 and 1972. The questionnaire focused on work-related values using 32 items to measure the importance of various work goals. Using ecological factor analysis; that is, factor analysis of country mean scores, three factors were identified which explained 49 percent of the total variance. However, one dimension that incorporated power distance and individualism was separated into two distinct factors on theoretical grounds. While this initial factor analysis was based on 40 countries only, the addition of ten more countries and three regions did not significantly change the dimensions (Hofstede, 1983). Hofstede et.al. (1990: 313) later also proposed an alternative conceptualization of cultural dimensions at the organizational level, but the authors themselves accepted that the sample of twenty case studies was 'far too limited' to claim universality. Hofstede has consistently refused to apply his concepts to levels of analysis other than the national, but Kirkman et.al. (2006: 298) argue that 'one might reasonably infer' that it also applies to smaller groups within nationalities, such as organizations and teams. Some studies have used Hofstede's cultural categories to explain

specific HR phenomena such as compensation practices at the company level (Schuler and Rogovsky, 1998).

The validity of Hofstede's framework has been subjected to considerable criticism (McSweeney, 2002; Gooderham and Nordhaug, 2003) including that its four (later five) dimensions over-simplify culture and that the sampling procedure, limited to single multinational corporation, used to generate these dimensions was flawed . However, while we share these concerns, equally the application by researchers of Hofstede's framework, particularly as measured by Kogut and Singh's index, continues to be very widespread. Kirkman et al. (2006: 286) ascribe this to its "clarity" and "parsimony". Nevertheless, of particular significance for our investigation, Kirkman et al. (2006: 313) note that the "general trend" in the degree of variation in practice explained by studies using Hofstede's categories is actually small.

Institutional Distance

Hofstede's analysis acknowledges, but does not pursue, the role played by institutional as well as cultural factors (Hofstede, 1983). During recent decades a broad array of research focusing on institutional determinants of managerial and organizational practices has been published. Although these theoretical perspectives diverge on important dimensions, they share the assumption that institutional considerations are more important antecedents of management practices than other factors because of the ways that they limit and structure the actions and interactions of managers and employees alike. They emphasise the pressures on companies to acquire and maintain legitimacy in relation to the environment and the way that interlocking practices can bring benefits in particular systemic contexts (see, e.g. DiMaggio, 1983; DiMaggio and Powell, 1983; Powell and DiMaggio, 1991). The approach has increasingly been applied in comparative empirical studies of the actual application of managerial and organizational practices in different countries and regions (Gooderham et al., 1999; Geppert et al., 2002; Geppert, 2002; Geppert et al., 2003; Sorge, 2004).

Standard neo-institutional explanations of management practices and strategies predict limited diversity among firms that operate in the same industry or organizational field within the context of a single society or national economy (DiMaggio and Powell, 1991; Dobbin,

Sutton, Meyer and Scott, 1993; Gulati, 1999; Hitt et al., 2004; Peng, 2005; Peng et al., 2005). At the core of new institutionalism is an emphasis on the pressures on firms to acquire and maintain legitimacy in relation to the environment (see, e.g. DiMaggio, 1983; DiMaggio and Powell, 1983; Powell and DiMaggio, 1991). One branch of new institutionalist theory, the "Varieties of Capitalism" (VOC) literature takes a firm-centred approach locating the firm in its relationships with shareholders, with employees and with other firms (Hall and Soskice, 2001: 4-6). The approach emphasises the significance and persistence of institutional "complementarities" which occur when particular institutional features work together more effectively than on their own, encouraging particular combinations of practices. The degree of institutional coherence in economies, it has been argued, is important to economic success in particular markets (Hall and Gingerich, 2004a). The concept's usefulness has been elaborated and defended since its initial publication (see for example Crouch, 2005; Streeck and Thelen, 2005; Hollingsworth 2006). The concept of institutional distance measures the distance between given countries and VOC's construct of the "Liberal Market Economy" (LME); the alternative is the continental European "Co-ordinated Market Economy" (CME).

A second branch of this new institutionalist literature – "Business Systems" – pays more attention to how collective actors emerge and seek to control resources, in terms of work relationships and firm governance (Whitley, 1999). Both branches argue that there is a strong interdependence between national systems of co-ordination and firms' strategies (Whitley, 1999). Despite the possibility of some heterogeneity, there is therefore, a degree of uniformity in the mechanisms within each variety of capitalism or business system. These mechanisms tend to be "path dependent" or broadly consistent over time (Hall and Soskice, 2001; Whitley, 1999). "Path-dependence" (c.f. Hollingsworth, 2006) means that while national systems may change, actors modify institutions incrementally, leading to change on restricted and predictable lines.

New institutionalist literature assigns a certain, secondary explanatory role to cultural factors. Hall and Soskice (2001) define culture as a set of informal rules, identify it with historic inheritances and suggest that it may explain why actors settle on certain equilibria within given institutional settings. The concept played a considerable role in Whitley's (1992) early explorations of East Asian business systems, where it was closely associated with secular historical factors that shaped industrialization. Cultural factors are distinguished from 'key social institutions' as 'more diffuse factors' (Whitley, 1992: 13). However, in

Whitley's later work, culture assumed a less significant role (Whitley, 1999). Soon after their emergence these institutional approaches were subjected to criticisms that they constituted an overly functionalist model that exaggerated "path dependency", and were therefore incapable of explaining change (for a recent summary see Deeg and Jackson, 2007). According to critics, this meant that they paid too little attention to the ways that institutions were capable of re-interpretation and were therefore adapting to the rapid changes in the context of developing pressures from "globalization". In response, a theoretical strand has been initiated attempting to demonstrate the relatively strong capacity of institutions to adapt to meet the needs of key actors (Streeck and Thelen, 2005). The underlying argument in this strand is that numerous modes of incremental institutional change exist that can collectively maintain underlying continuities in social settlements whilst transforming the institutions themselves.

In sum, both cultural and institutionalist interpretations propose deeply embedded assumptions among actors in different national contexts, even if the former posit a significantly slower rate of change than the latter (Streeck and Thelen, 2005). In each of the two literatures, the alternative is ascribed a certain, but very restricted role, with the institutionalist literature containing more reference to culture than vice versa.

Calculative HRM

Gooderham et al. (2006) have discussed the origins of calculative HRM. In the 1970s, American mass production grappled with the persistent effects of increased international competition and a more uncertain business environment. New flexible productive techniques emerged in the wake of advances in information technology stimulating a shift in competitive strategy toward flexible specialization aimed at producing differentiated, high-value-added products (Piore and Sabel, 1984). In addition, significant changes to the institutional environment occurred in which unions became increasingly marginalized while management and shareholders increased their power. In this, as Weinstein and Kochan (1995:27) observe, "Government played an important role by weakening its enforcement of labour and employment laws and by allowing (some would say encouraging) a harder line by management in its resistance to unions". The result was the demise of the New Deal employment relations system and the emergence of a new system of labour management

(Weinstein and Kochan, 1995). This new system stresses the close synchronization of human resource policies and activities with the overall business strategy through efficient reward and appraisal and employee development monitoring systems, and is essentially indicative of a rational, calculative approach (Gooderham et al., 1999). Based on an assumption of a high degree of congruence between employer and employee interests, this is a unitarist rather than a pluralist or "social partnership" approach (Sparrow and Hiltrop, 1994). It is contrasted with "collaborative" or "collectivistic" approaches more commonly found in Europe which, in contrast to the "calculative" approach, acknowledges divergent interests within the enterprise and an obligation to integrate employee collectives by a range of means including intensive communication (Gooderham et.al., 1999; Gospel and Pendleton, 2005).

As Ferner (2000) and Ferner et al. (2004) argue, the American business system that emerged can be understood as a distinctive model of economic organisation within the general category of "liberal market economies". It is characterized by a dominant individualist ethos and a strong anti-union mentality. Overall, pay and performance management became characterized by the innovative use of performance systems, including merit pay and forced performance distributions in employee appraisal processes. Thus the new model that emerged was different from that of the New Deal system in that whereas formerly wages had been attached to jobs rather than individuals, in the new model a pronounced move occurred to tie wages to individual performance and competency through individual incentives. It is in terms of this context, characterized by substantial firm autonomy, that Tichy et al.'s (1984) HRM model is to be understood: that is, as a model that emphasizes the systematic use of individual performance appraisals, individual performance-related rewards and outcomes-monitored training and development.

Previous research has demonstrated that calculative HRM has been readily adopted by firms in the UK and Australia and significantly less so in continental Western Europe where the collaborative approach remains predominant (Gooderham et al., 1999; 2006).

Calculative HRM, Institutions and Culture

In this section, the theoretical connections between the cultural and institutionalist interpretive frameworks and calculative HRM are explored and two hypotheses proposed. In

addition we first discuss the possible need to unpack these frameworks when testing them empirically. Thereafter we address the possibility that the two frameworks may be too inextricably intertwined for any real differences to manifest themselves separately in shaping calculative HRM is considered.

The Institutional Framework and Calculative HRM

Calculative, as opposed to collaborative HRM, emphasizes a "market" rather than a "relational approach" to securing employee commitment (Gospel and Pendleton, 2005). In the latter, the workplace is seen as a collective enterprise and the workplace as a community within which the possibility of conflict is recognized and the degree of "employee-employer interdependence" (Whitley, 1999) is raised. In Weberian terms, the attempt is to make it a community for itself, based on mutual commitment (Gemeinschaft) rather than in itself, based on self-interest (Gesellschaft). Calculative HRM views any such attempt as economically irrational. It therefore emphasizes external markets, individual roles, incentives and accountability.

In institutional terms, distance from the USA in regulatory terms restricts managerial choice in adopting the predominant US paradigm, i.e. calculative HRM. A survey of literature on US-based MNCs in Germany clearly demonstrates how most of these companies have adapted their HR practices under environmental pressures (Singe and Croucher (2005). The environment rather than management custom is however crucial since there is also evidence to suggest that German multi-national firms, when 'freed' from their national system do not export it (Meardi and Toth, 2006).

Legal systems constitute a fundamental building block of the CME-LME distinction and clearly play a role in shaping HR practices and especially in restricting the possibilities of calculative HRM. La Porta et al. (1998; 2000) have constructed a scale of legal systems, ranking them as to whether they are closer to common law or civil law ideal types. The legal system directly affects how other markets, including that for labour, are regulated: where shareholder rights are ensured, those of other stakeholders such as employees will be reduced (see Botero et al. 2004; Djankov et al., 2003). Hence, in civil law countries, shareholder rights will be stronger, and in common law ones weaker; the converse is true with employee rights. By ensuring that unions have clear rights to participate in industry-level bargaining,

civil law regimes affect the companies' capacity to determine pay on an individual basis; thus, pay may be determined at the industry level as in many continental European CMEs.

Deakin, Lele and Siems (2007) have further demonstrated the significance of legal regimes to the adoption of different types of HR practice. Variable pay is more likely to be encountered where owner rights are stronger, i.e. in countries closer to the common law ideal (c.f. Botero et al. 2004; Djankov et al. 2003). However, it is also clear that HR practices are shaped by institutional factors that, while they may have a legal basis, have also developed further, through institutions that shape custom and practice in workplaces. In CMEs, these factors tend to raise what Whitley (1999) describes as "employer-employee interdependence", allowing high levels of delegation to employees. Levels of training inside specific companies need not be high since these are both high on entry to employment and the nature of training is more industry than company-specific (Cockrill and Scott, 1997). Thus, less incentive exists to monitor the effectiveness of training since the company has to make much lower investments in company-specific training than in LMEs.

Thus we hypothesize that:

H1: The closer a country is in terms of institutional distance to the USA, the greater the tendency for its firms to adopt calculative HRM

The Cultural Framework and Calculative HRM

The relationship between the four different dimensions that comprise Hofstede's cultural framework, which comprise the basis of the Kogut-Singh index, and calculative HRM is arguably more problematic. Calculative HRM, particularly in terms of individualized appraisal and rewards would appear to be congruent with Hosftede's Individualism dimension. Equally calculative HRM might be less likely to emerge in contexts characterized by high levels of Uncertainty Avoidance because greater use of varying rewards might trigger uncertainty and therefore resistance. For the two other dimensions the relationship is less apparent. Thus while the Power Distance dimension might potentially be associated with a less 'relational' view of motivation, yet there might be most demand for it in the middle of the range of Power Distance. This is because very high levels of Power Distance might mean that individual pay is simply not needed because of the subordinates' high levels of

motivation to comply with direction, while very low levels might mean that it would fly in the face of egalitarian norms. In the case of the Masculinity dimension the possible relationship becomes even less clear.

This reasoning would appear to be borne out in terms of empirical research by Schuler and Rogovsky (1998). Their cross-national research indicates that while Individualism is significantly correlated with firms' use of key calculative HRM practices such as pay-for-performance and focus on individual performance, neither Power Distance or Masculinity is associated with these practices. However, as we conjecture, they did find that firms in countries with high levels of Uncertainty Avoidance are markedly less inclined to use these practices. In other words Schuler and Rogovsky's (1998:172) results specifically indicate that "individual incentive compensation practices have a better fit in countries with higher levels of Individualism" and countries with lower levels of Uncertainty Avoidance. Hofstede's other dimensions have little or no influence. Although, as Schuler and Rogovsky acknowledge, their research failed to control for a range of variables such as firm size, private-public ownership, and industry, all of which they concede might explain a certain amount of variance in the use of particular HRM practices, Individualism and low levels of Uncertainty Avoidance do appear to be related to calculative HRM. Given that the Kogut-Singh index is premised on distance from the USA, and given that the USA has an extremely high Individualism score combined with a low ranking in the Uncertainty Avodiance dimension we propose that:

H2: The closer a country is in terms of cultural distance to the USA, the greater the tendency for its firms to adopt calculative HRM.

Before testing our two hypotheses let us address two issues. The first of these is that both indexes may need to be "unpacked". This is particularly the case for the Kogut-Singh index which as our discussion above reveals clearly comprises disparate elements. However, potentially the same may be the case for the Hall-Gingerich index which also is attempting to measure a multifaceted concept.

The second issue concerns the possibility that the effects of cultural and institutional factors on the adoption of calculative HRM are too closely intertwined to be separated. That is that LME nations tend to be more individualistic than CME nations. However, there is a persuasive argument suggesting that they may indeed be separable. By definition,

movements in the two structures operate on completely different timescales; "culture" describes a set of norms and values that change only imperceptibly over very long periods of time, whereas institutions impact on management practice as notions of legitimate behaviour that are subject to constant if incremental modification in relation to the environment. Streeck and Thelen (2005) for example show how the German welfare system evolved from its Bismarckian origins to the late Twentieth Century to provide very different incentives for actors in employment relations, Thus, while German culture remained fairly constant the institutions changed their ways of working to provide different incentives to actors. Thus we will proceed on the working assumption that the two factors are in fact separable.

Methodology

Data

To test our hypotheses we have employed data derived from the 1999 Cranet survey of HRM in European countries. The 1999 data set was preferred to the more recent 2003 version since the variables within the earlier version allow for construction of a more comprehensive calculative HRM scale. The age of the data set is not a problem since the hypotheses being tested here do not seek to provide evidence of the current penetration of calculative HRM and how that has developed over time. Rather this analysis seeks to examine the impact of culture and institutions distance on HRM practice. An added advantage of our data set is that it was collected at a time close to the data collected for construction of the Hall and Gingerich institutional distance index. The validity of the culture-focused Kogut and Singh index is much less time sensitive.

The overall strategy of the survey was to mail appropriately translated questionnaires to human resource managers in representative national samples of firms with more than one hundred employees. Problems in ensuring that the selection and interpretation of topic areas was not biased by one country's approach, as well as problems related to the translation of concepts and questions, were largely overcome by close collaboration between business schools located in each country (for a detailed description of the Cranet approach, see Brewster et al., 1996). Although the response rate for the individual countries is relatively

low, mostly between 20 and 35 per cent, analyses of previous Cranet surveys suggest that its statistical representativeness has not been impaired (Brewster et al., 1994).

The total survey data set covers 8,050 firms. Removing those countries not included in at least one of the cultural and institutional indices outlined below reduces the sample size to 5,970 firms across 14 countries. Omitting those firms where non-responses prevent a full set of variables being constructed further reduces the sample to 3,027 firms. Clearly, losing almost half of the observations through non-responses is a potential problem to the viability of the sample. However a dummy variable adjustment procedure (Cohen & Cohen, 1985) was carried out prior to undertaking the empirical analysis outlined below and no significant relationships between missingness and the dependent variable were detected. Consequently we can be confident that the resultant estimates from the empirical analysis are free from any biases generated by these non-responses. Table 1 summarizes the country distribution of the sample for both the original sample and the final working sample.

TABLE 1 ABOUT HERE

Operationalizations

As indicated above the Kogut-Singh cultural distance index and the Hall- Gingerich institutional index are respectively used to measure cultural and institutional distance. Both have been developed with the US serving as a base point.

Cultural distance

Kogut and Singh (1988) developed a composite index of cultural distance based on deviation along the first four dimensions of Hofstede's (1980) framework. Many studies have subsequently used the Kogut and Singh (1988) formula, or an adapted version, as a measure of cultural distance (Agarwal, 1994; Barkema et al., 1996; Benito and Gripsrud, 1992; Fletcher and Bohn, 1998; Gomez-Mejia and Palich, 1997; Kale, 1991; Morosini, Shane and Singh, 1998; Padmanabhan and Cho, 1996). Morosini et al. (1988) identify two main advantages of using this composite index. First, it is argued that by using the existing country scores the problem of common method variance will be avoided. Second, the composite index overcomes the problem of retrospective evaluation. It is evident, therefore, that the

composite index is a useful and effective indicator of cultural distance. While our initial analysis uses the Kogut-Singh index, we are also mindful that culture might have effects which are not captured by distance from the USA. Thus we also carry out a separate analysis using the individual values of the culture dimensions.

Institutional distance

Hall and Gingerich demonstrated on the basis of econometric data that key measures of corporate governance and labour relations in an economy can be combined to produce a single factor which captures much of the variance of these elements. The index combines measures of shareholder power, dispersion of firm control, size of stock market, level and degree of wage coordination and labour turnover. All are highly correlated with a single factor. The Hall-Gingerich index for the first time provides the opportunity to specify the position of a country in terms of a single LME-CME continuum that runs from '0' for the USA to '1' for Austria. In calculating their coordination index they have included a wide range of developed countries thereby rendering a "varieties of capitalism approach to comparative capitalism pertinent not only to relatively pure types of LMEs or CMEs" (Hall and Gingerich, 2004a: 37) but also to the many less pure or more ambiguous forms. With coordination conceived as a continuum between "pure LME and "pure" CME the index can be used to locate a much greater number of nations vis-à-vis one another than previous "pure-types" dichotomous approaches had permitted. At the same time, though, the index confirms the validity of the basic distinction between LMEs and CMEs. The Hall-Gingerich index has two separate components: a corporate governance component (shareholder power, dispersion of control, size of stock market); and a labour relations component (coordination in labour relations, level of wage coordination, degree of wage coordination, labour turnover). Since the labour relations component of the index has the most salience for HR practices, we focus on the labour relations component in the present study.

Calculative HRM

Following Gooderham et al (2006) the dependent variable in our analysis, calculative HRM, is constructed using the binary responses to core questions relating to HRM policy. The calculative approach to managing human resources emphasises individual performance

appraisal, individual reward systems, and monitoring of the effects of training. Replicating Gooderham et al's (2006) nonparametric probalistic Mokken scale for these 14 countries produces the results shown below in Table 2. The resultant scale, which models calculative HRM as a latent variable measured with error by the ten binary items, achieves the minimum acceptance criterion in terms of both scalability and reliability with all of the H-values being above 0.3 and Cronbach's alpha greater than 0.7 (Gooderham et al., 2006). Therefore representing these 10 variables with a single scale is a statistically valid step. The Calculative HRM scale is then applied as the dependent variable in the subsequent empirical analysis.

TABLE 2 ABOUT HERE

The theoretical underpinning to our analysis suggests that the factors determining a firm's HRM decisions act at two distinct levels. Whereas the control variables, such as size of the firm, its ownership and the industry in which it operates are at the firm level, institutional and cultural distance are beyond the scope of the firm and act at a national level upon all firms. As a consequence, using a traditional linear regression approach would be flawed for several reasons. Most importantly, parameter mis-estimation is likely as the independence assumption is violated (Klein and Kozlowski 2000, Raudenbush and Bryk 2002). Moreover, lower level variables may not be representative of group level constructs (Goldstein 1995). Therefore in this case hierarchical linear modelling (HLM) is applied, to enable the impact of those factors acting at the firm level and those operating at the national level to be established more robustly.

The HLM models applied here estimate calculative HRM as a function of variables at two distinct levels, level 1 being the firm and level 2 being country. All the level 1 variables are entered as group-centered, and in the level 1 model the firm level regression coefficients for the ownership dummies as well as union density are allowed to vary by country. Group level centering means that level 1 coefficients represent the effects on the dependent variable, of variation in level 1 independent variables, relative to their country mean. The effect is to focus the analysis of level 1 variables on the effect of within country between firm variation. The effect of between country variation in the mean size of level 1 independent variables is partialed out. This is appropriate for our analyses since these country means would act as an imperfect proxy for national culture and institutions correlating with and complicating our comparison of the (level 2) effects of culture and institutions on calculative HRM.

HLM has no direct equivalent of OLS regression Rsqd. However, following Hunter and Schmidt (1990), an index of the effect size based on the t-value of the parameter estimates and the degrees of freedom is constructed as: $(t^2/(t^2 + df))^{0.5}$ and the relative size of each effect is then estimated as; $(t^2/(t^2 + df))^{0.5}/\sum(t^2/(t^2 + df))^{0.5}$.

Control variables

The purpose of our empirical analysis is to establish and compare the impact of cultural and institutional distance on the HRM policies and strategies expressed by the extent of calculative HRM, as measured by Gooderham et.al.'s (1999) scale outlined below. Calculative HRM is thus the dependent variable. It is estimated as a function of institutional and cultural distance at the country level while controlling for a range of other factors at the firm level which are likely to influence the firm's HRM approach (Gooderham et al., 1999; 2006; Fenton-O'Creevy et al., 2008). These are firm size, industry, ownership and union density. Firm size is measured as the total number of employees. Industry is a set of dummy variables identifying the primary, secondary and tertiary sectors with secondary sector being used as the reference group. Ownership is a set of dummies for US owned firms, non-US owned foreign firms and domestic owned firms with the latter as the reference group. Finally union density is measured as the proportion of employees who are trade union members. It is often the case that a size variable of this type is skewed by a small number of very large firms and the variable is entered as a logarithm to reduce the skewness. In this instance it has not been entered in logarithmic form since this means that the coefficient on the size variable is more straightforward to interpret. However, in order to ensure the reliability of the results, all of the subsequent models have also been estimated with a logarithmic size variable and all of our reported findings are consistent using either formulation.

Empirical Analysis

Tables 3 and 4 display the correlations between both the variables included in our hypotheses and the control variables measured, respectively, at the firm and country levels

TABLES 3 AND 4 ABOUT HERE

Table 5 below records the composite indices for both cultural and institutional distance, covering all of the countries included in this analysis as well as the individual measures underpinning the overall indices.

TABLE 5 ABOUT HERE

Table 6 shows results from a test of two models. We first examine the effect of cultural and institutional distance using the Kogut-Singh index as our cultural distance measure and the labour relations component of the Hall-Gingerich index as our institutional distance measure. Second, since we wished to examine the possibility that the Kogut- Singh index masked either contrary effects on different cultural dimensions or cultural effects which are not captured by cultural distance from the USA we replaced the Kogut- Singh index by separate values for each culture dimension. This revealed that only the effect of Individualism achieved significance (at $p<0.1$, prior to entering Labour relations into the analysis). To give the greatest chance of detecting a significant result for culture we therefore dropped all culture dimensions except Individualism and entered this together with Labour relations in the analysis (Model 2). Indeed it may be noted that entering all culture dimensions and Labour Relations simultaneously, does not add any further explanatory power and reduces the significance of coefficients due to the reduction in degrees of freedom, since the degrees of freedom at country level are determined by number of countries in the analysis not by number of firms.

If we focus our attention on the Level 1 control variables, the results are in line with previous findings (Gooderham, et al., 1999; 2006). Size is important with those firms employing more people tending to be more calculative. Union density is also important and a greater proportion of trade union members significantly reduces the extent of calculative HRM. In addition, ownership has a significant impact. Foreign-owned firms tend to be more calculative than domestically owned ones and amongst these firms, the results indicate that US owned firms are clearly more calculative than others.

TABLE 6 ABOUT HERE

Both models tell the same story. The institution measure explains significant country level variance in calculative HRM but the culture measure fails to explain any significant variance. While a separate analysis entering only culture showed Individualism to achieve

marginal significance, the effect of Individualism is completely subsumed once we enter the institutional distance (Labour Relations) variable.

Thus hypothesis 1 (greater institutional distance from the USA is associated with lower calculative HRM) is supported, while hypothesis 2 (greater cultural distance from the USA is associated with lower calculative HRM) is rejected.

Conclusions

The paper's contribution has been to show that institutional distance from the USA is more significant than cultural distance in determining the incidence of the LME form of labour management, i.e. calculative HRM. In the process, we also found that the effects of the two frameworks are indeed separable. The consequences for the frames of reference of those researchers who rely either solely on cultural analysis or who make only formal recognition of the importance of institutions as a sub-set of cultural influences are significant. Moreover, while institutional theory has to some extent at least taken account of cultural influences, the reverse is much less the case and our findings are therefore rather negative for cultural theory. This is significant because cultural discourses have hitherto predominated in management studies, while institutional explanations have been relatively marginal. A significant practical consequence of the analysis for management and management training is that all aspects of the institutional issue deserve more attention than they currently receive in management schools and indeed in the practice of management itself. There may also be wider consequences in terms of the frames of reference adopted by scholars making international comparisons.

We have not found that cultural differences are of no importance in determining the adoption of calculative HRM. First, it could be argued that even though it is not included in the Hall-Gingerich index, culture is subsumed to some extent in the institutional perspective (in the form of cultural-cognitive mindset). Second, the limited degrees of freedom at country level mean that our study may not have the power to detect modest culture effects. Nonetheless if there are national culture effects on calculative HRM the present study suggests at the very least that as measured by Hofstede's cultural dimensions, they are weaker than the effects of national labour relations institutions.

Our results lend some credence to the criticisms of the Hofstede approach made by McSweeney (2002) and Gooderham and Nordhaug (2003) in that it has proved impossible to detect any clear connection between the scale derived from his framework and calculative HRM. Our findings are also consistent with those of others who have studied the investment decisions of US-based companies seeking to invest abroad who are likely to wish to introduce calculative HRM. The studies found that employment relations institutions, although subordinate to market size considerations, play a considerable role in these decisions (Cooke, 1997; Bognanno et.al., 2005). It may be that these institutions provide more perceptible material constraints on managers than the more abstract and diffuse cultural considerations. Managers faced with attempting to introduce variable pay may be more aware of the considerable tangible difficulties posed by laws and institutions such as unions and works councils than of attitudinal issues.

A substantive synthesis of the two approaches that seeks to understand the mechanisms involved in greater depth is required. This calls for an investigation across a broader range of management practices than we have undertaken here; even within HRM, we have investigated only one set of practices. Hitherto, cultural and institutional theories have operated in intellectual silos that, while formally recognizing the other's significance, have made no attempt to enter into serious dialogue with each other. The two discussions continue to develop in substantial isolation. Our paper represents the first step towards developing such a synthesis and is thus a significant contribution to achieving an adequate holistic understanding of the antecedents of firms' HRM practices in different national settings.

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Table 1: Country Distribution of Data Sample

	Original Sample		Working Sample	
Country	Observations	Percentage	Observations	Percentage
UK	1091	18.3%	562	18.6%
Ireland	446	7.5%	245	8.1%
Australia	240	4.0%	148	4.9%
New Zealand	570	9.5%	366	12.1%
Germany	743	12.4%	384	12.7%
Denmark	520	8.7%	260	8.6%
Norway	391	6.5%	154	5.1%
Austria	230	3.8%	115	3.8%
Finland	290	4.9%	127	4.2%
France	400	6.7%	221	7.3%
Netherlands	234	3.9%	64	2.1%
Portugal	169	2.8%	103	3.4%
Spain	294	4.9%	148	4.9%
Sweden	352	5.9%	130	4.3%
Total	5970	100%	3027	100%

Table 2: Mokken Scale of Calculative HRM

		Mean	H_{wgt}	Corr.
Scale	Overall calculative scale, 10 items (Cronbach's alpha = 0.81)		0.46	0.30
Item 1	Monitoring of training effectiveness	0.58	0.39	0.44
Item 2	Formal evaluation of training	0.53	0.38	0.44
Item 3	Performance appraisals: managers	0.7	0.54	0.54
Item 4	Performance appraisals: professionals	0.68	0.58	0.60
Item 5	Performance appraisals: clerical	0.63	0.54	0.58
Item 6	Performance appraisals: manual	0.47	0.32	0.37
Item 7	Merit pay: managers	0.43	0.39	0.46
Item 8	Merit pay: professionals	0.42	0.48	0.55
Item 9	Merit pay: clerical	0.35	0.51	0.53
Item 10	Merit pay: manual	0.26	0.35	0.30

Table 3: Firm level correlation matrix

	Calculative HRM	Total Employees	Union Density	US Owned	non-US Owned	Domestically Owned	Primary	Secondary	Tertiary
Calculative HRM									
Total Employees	0.04								
Union Density	-0.24	-0.01							
US Owned	0.150	-0.01	-0.09						
non-US Owned	0.06	-0.01	0.04	-0.20					
Domestically Owned	-0.15	0.02	0.02	-0.49	-0.76				
Primary	0.02	-0.01	0.03	-0.04	-0.05	0.07			
Secondary	-0.07	0.01	0.20	0.00	0.05	-0.05	-0.26		
Tertiary	0.06	-0.01	-0.22	0.01	-0.03	0.02	-0.17	-0.91	

Table 4: Country level correlation matrix

	Power Distance	Uncertainty Avoidance	Masculinity	Individualism	K-S Index	Labour Relations
Power Distance						
Uncertainty Avoidance	0.70					
Masculinity	-0.14	0.11				
Individualism	-0.34	-0.72	0.17			
K-S Index	0.45	0.68	-0.35	-0.92		
Labour Relations	-0.05	0.38	-0.28	-0.59	0.48	

Table 5: Measures of culture and institutions

	Culture				Cultural Distance from USA	Institutional Distance from USA		
Country	Power Distance	Uncertainty Avoidance	Masculinity	Individualism	**K-S Index**	Labour Relations	Corporate Governance	**H-G Index**
USA	40	46	62	91	**0**	0	0	**0**
UK	35	35	66	89	**0.09**	0.04	0.14	**0.07**
Ireland	28	35	68	70	**0.61**	0.28	0.35	**0.29**
Australia	36	51	61	90	**0.03**	0.29	0.47	**0.36**
New Zealand	22	49	58	79	**0.47**	0.09	0.27	**0.21**
Germany	35	65	66	67	**0.72**	0.92	0.95	**0.95**
Denmark	18	23	16	74	**1.86**	0.58	0.65	**0.7**
Norway	31	50	8	69	**1.72**	0.81	0.74	**0.76**
Austria	11	70	79	55	**2.4**	1	1	**1**
Finland	33	59	26	63	**1.36**	0.66	0.71	**0.72**
France	68	86	43	71	**2.06**	0.6	0.82	**0.69**

Netherlands	38	53	14	80	**1.08**	0.53	0.74	**0.66**
Portugal	63	104	31	27	**6.22**	0.62	0.85	**0.72**
Spain	57	86	42	51	**2.66**	0.54	0.77	**0.57**
Sweden	31	29	5	71	**1.91**	0.59	0.71	**0.69**

Table 6: Estimated multi-level models

	Model 1		Effects		Model 2		Effects	
	Coeff	T-ratio	Size	%	Coeff	T-ratio	Size	%
Intercept	61.75	10.4**	0.95	22%	70.39	4.0**	0.76	18%
L1 variables								
No. employees (000s)	0.01	2.3*	0.04	1%	0.01	2.3*	0.04	1%
Union density	-0.09	-4.9**	0.82	19%	-0.09	-5.0**	0.82	20%
US owned	12.98	8.1**	0.92	21%	12.98	8.1**	0.92	22%
Non US owned[a]	6.53	5.5**	0.85	20%	6.53	5.5**	0.85	20%
Primary[b]	4.57	1.9ǂ	0.03	1%	4.57	1.9ǂ	0.03	1%
Tertiary	2.00	1.9ǂ	0.03	1%	2.00	1.9ǂ	0.03	1%
L2 variables								
Individualism					-0.1	-0.5	0.14	3%
Kogut and Singh Index	0.59	0.3	0.09	2%				
Labour Relations	-22.20	-2.3*	0.55	3%	-23.9	-2.2*	0.54	13%
Level 1 variance explained	0.01		**4.28**		0.023		**4.13**	
Level 2 variance explained	0.72				0.599			
No. of observations	3027				3027			
Degrees of freedom – level 1	3018				3018			
Degrees of freedom – level 2	12				12			

ǂ, * and ** denote significance at the p<0.1, 0.05 and 0.01 levels

a. Reference category is domestically owned.

b. Reference category is Secondary